ANALYTICAL PROCEDURES FOR NPO AUDITS & REVIEWS

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Course Agenda

- Benefits of ProfitCents Analytical Procedures for NPO
- Building Analytical Procedures Into Your Processes
- Using Analytical Procedures - NPO
- Best Practices for Documentation

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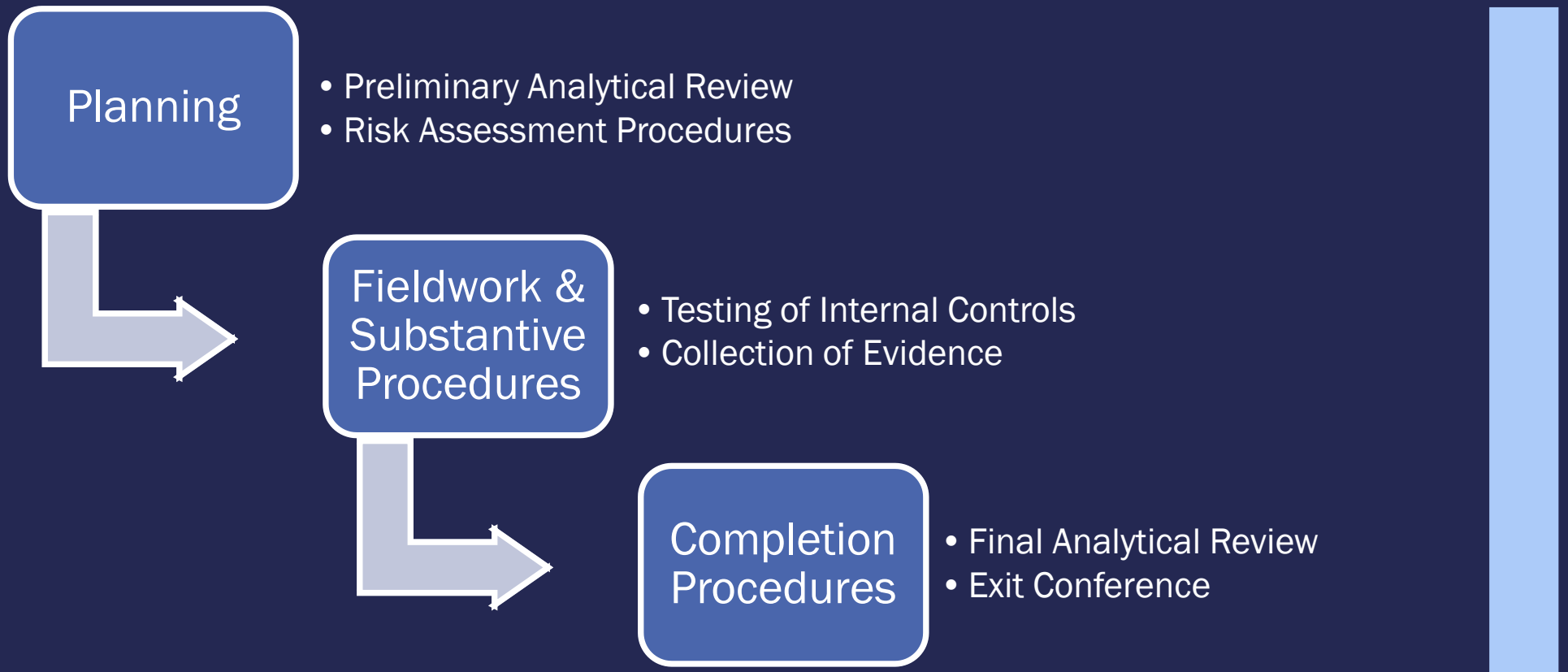
THE AUDIT PROCESS



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Where does ProfitCents fit in?

PREMLINARY ANALYTICAL REVIEW

RISK ASSESSMENT PROCEDURES

FINAL ANALYTICAL REVIEW

EXIT CONFERENCE

DOCUMENTATION

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Benefits of Analytical Procedures

Consistency

Reliability

Efficiency

Depth

Compliance

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Key Facts

One of our most detailed reports

Helps comply with SSARS No. 19, SAS Nos. 56, 59, 77, 103, 104-111, Audit documentation and AICPA review guidelines

Used for audit and review documentation and analysis

Automates the task of developing and documenting expected values for your working papers

Can be downloaded into a portable Excel file

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SAS Guideline	Definition	Where	How PC Helps
56	What method was used for analytical procedures	AP Report	Ration Analysis, Industry Comparisons, Non-Financial Info, Financial Data
	What is the acceptable difference between expected values and actual	AP Report; AP Worksheet	Threshold analysis (red flags)
	Non-financial data → financial (such as employees; Non-financial KPIs	AP Worksheet; Narrative; Industry Data with KPIs	Employee section; Industry Data provides KPIs for comparing non-financial metrics
59	Going concern (will the company stay in business	AP Worksheet; Narrative; Industry Data	Z-Score-likelihood of bankruptcy
103	Documents analytical procedures	Entire AP report and Worksheet	Report and Worksheet provide standardized audit documentation improving overall audit quality
104-111	Demonstrate understanding of the entity and its environment; Requires quality outside information	AP Worksheet; Narrative; Industry Data	Automated industry comparisons and statistical trends; Narrative report analyzes the business; Industry Data provides overview of the client's industry
	States responsibility for risk assessment	Risk Assessment Worksheet	Provides method of linking analytical procedures through to audit plan via risk assessment worksheet
	Describes the risk assessment procedures that auditors must perform	AP Worksheet; Scorecard	Provides variance analysis (period to period comparisons), industry comparisons, trend analysis and budget-to-actual
	Understand the entity and its environment		
	Develop expectations	AP Worksheet; Scorecard	Calculates the statistical trend and regression analysis, provides expected industry range (benchmarks)
115	Exit/management letter	Narrative and Industry Data	Provides "tips for improvement and narrative report

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APPLICATIONS FOR:

THE PLANNING PHASE OF THE ENGAGEMENT & PRELIMINARY ANALYTICAL REVIEW

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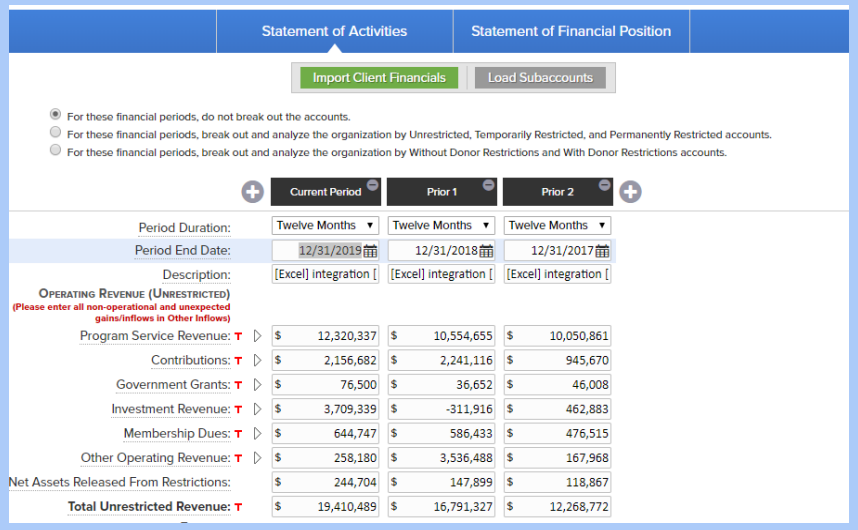
Integration of Financials

Use one of our integration methods to easily upload up to 5 periods of data

Integrates with a number of accounting platforms



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Developing Expected Values

The current year data is NOT used in the calculation of the Expected Values so as not to bias the report

A sales growth driven model is used and is a primary driver of the expected values

ONLY the client's historical data is used to calculate the expected values; industry data, economic factors, etc., are not incorporated

Our expected values are calculated using a combination of trend and regression analysis to show what the current year should look like

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NOTE: To change an EXPECTED value, click on the value.

Export to Excel | Set Threshold Value

Statement of Activities	12/31/2016	12/31/2017	12/31/2018	Actual 12/31/2019	Expected 12/31/2019	% Diff	Notes
Program Service Revenue	$7,882,607	$10,050,861	$10,554,655	$12,320,337	$11,134,018	11%	
Contributions	$557,148	$945,670	$2,241,116	$2,156,682	$2,992,408	-28%	
Government Grants	$74,150	$46,008	$36,652	$76,500	$27,296	180%	

Program Service Revenue

Algorithm: Adjusted Holt-Winters Exponential Smoothing

Formula	Calculation
In this case, the Adjusted Holt-Winters algorithm predicted Program Service Revenue would move beyond an intuitive value where the predicted growth was more than 15% more than the prior periods growth . Therefore, we have smoothed the Expected Value for Program Service Revenue using a different method.	10,554,655 + 1.15 * (10,554,655 - 10,050,861)
Expected Value = Program Service Revenue$_{12/31/2018}$ - 1.15 * (Program Service Revenue$_{12/31/2018}$ - Program Service Revenue$_{12/31/2017}$	Expected Value = 11,134,018

Contributions

Algorithm: Adjusted Holt-Winters Exponential Smoothing

Formula	Calculation
a_2 = Contributions$_{12/31/2017}$	a_2 = 945,670
t_2 = Contributions$_{12/31/2017}$ - Contributions$_{12/31/2016}$	t_2 = 945,670 - 557,148 = 388,522
$f_2 = a_2 + (t_2 * tw)$	f_2 = 945,670 + (388,522 * 1.00) = 1,334,192
a_3 = alpha * f_2 + (1-alpha) * Contributions$_{12/31/2018}$	a_3 =0.30*1,334,192 + (1-0.30) * 2,241,116 = 1,969,038.80
t_3 = beta*t_2 + (1-beta) * (Contributions$_{12/31/2018}$ - a_2)	t_3 = 0.30*388,522 + (1-0.30) * (2,241,116 - 945,670) = 1,023,368.80
$f_3 = a_3 + (t_3 * tw)$	f_3 = 1,969,038.80 + (1,023,368.80 * 1.00) = 2,992,407.60
Expected Value = f_3	Expected Value = 2,992,408

Obtaining an understanding of the *Entity* and the *Environment* in which they operate

Real-time industry averages and trends

INDUSTRY FINANCIAL DATA AND RATIOS

View Formula Key

Average by Year (Number of Financial Statements)

Financial Metric	Last 12 Months (22)	2019 (23)	2018 (36)	Last 5 Years (257)	All Years (1749)
Program Efficiency	0.72	0.72	0.69	0.72	0.70
Operating Reliance	0.23	0.24	0.29	0.29	0.28
Fundraising Efficiency	2.83	2.81	2.83	4.61	5.87
Current Ratio	7.51	7.17	6.38	6.86	6.44
Quick Ratio	4.37	4.24	8.54	6.04	5.77
Inventory Days	8.09	7.87	10.71	11.70	19.23
Receivable Days	22.21	21.53	33.88	24.39	26.32

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Obtaining an understanding of the *Entity* and the *Environment* in which they operate

Sector scorecard emphasizes changes in the company's financial position and its comparison to the industry

Narrative highlights key changes and relationships

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Sector Scorecard

Financial Indicator	Current Period	Sector Range	Distance from Sector
Current Ratio = Total Current Assets / Total Current Liabilities	25.17	4.50 to 7.84	+221.05%
Explanation: Generally, this metric measures the overall liquidity position of an organization. It is certainly not a perfect barometer, but it is a good one. Watch for big decreases in this number over time. Make sure the accounts listed in "current assets" (numerator) are collectible. The higher the ratio, the more liquid the organization is.			
Quick Ratio = (Cash + Total Receivables) / Total Current Liabilities	3.78	1.30 to 4.90	0.00%
Explanation: This is another good indicator of liquidity, although by itself, it is not a perfect one. If there are receivable accounts included in the numerator, they should be collectible. Look at the length of time the organization has to pay the amount listed in the denominator (current liabilities). The higher the number, the stronger the organization.			
Operating Margin = Operating Yield / Total Unrestricted Revenue	87.85%	-1.00% to 4.00%	+2,096.25%
Expla meas prepa			look at. It rtant number in

NPOCPE Report

Sector: A51 - Art Museums
Sales Range: Yearly revenue $10 Million to $50 Million
Periods: 12 months against the same 12 months from the previous year
Prepared by: Savage Accounting
By: Paul Savage
Phone: 919-867-5309

Report Summary

Tools for Analytical Review

Trend Analysis

Ratio Analysis

Industry Comparative Data

Common Size Statements

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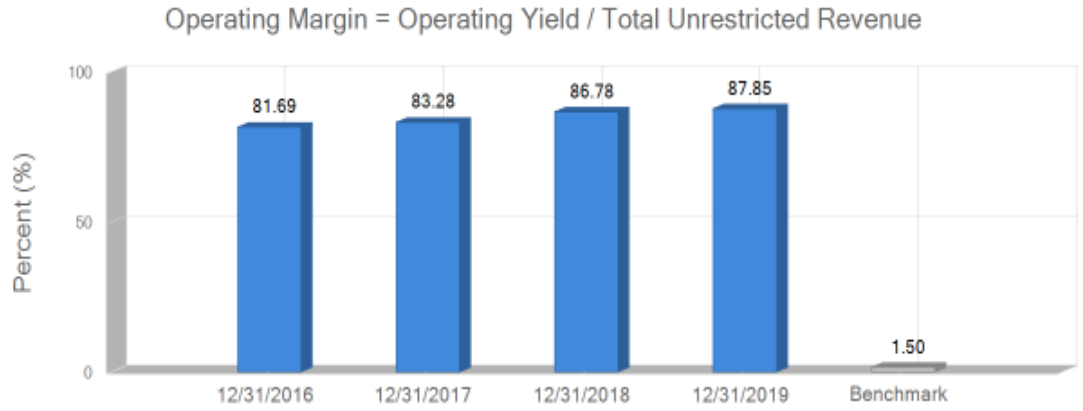
Common Size Statements

What is Common Size?

Statement of Activities	12/31/2016	12/31/2017	12/31/2018	12/31/2019	Industry* (67)
Program Service Revenue	72%	82%	63%	63%	16%
Contributions	5%	8%	13%	11%	50%
Government Grants	1%	0%	0%	0%	2%
Investment Revenue	16%	4%	-2%	19%	15%
Membership Dues	3%	4%	3%	3%	2%
Other Operating Revenue	1%	1%	21%	1%	9%
Net Assets Released From Restrictions	1%	1%	1%	1%	6%
Net Assets Released From Restrictions	1%	1%	1%	1%	6%
Total Unrestricted Revenue	100%	100%	100%	100%	100%
Program Service Expenses	0%	0%	0%	0%	44%
Payroll & Benefits	0%	0%	0%	0%	--
Depreciation and Amortization	0%	0%	0%	0%	--
Interest Expense	0%	0%	0%	0%	--
Rent	0%	0%	0%	0%	--
Utilities	0%	0%	0%	0%	--
Gross Yield	100%	100%	100%	100%	56%

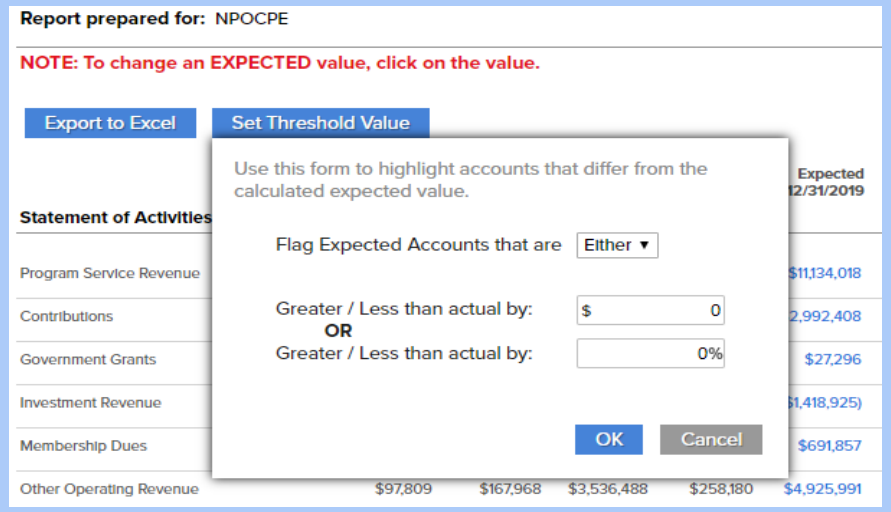
Charts and Graphs



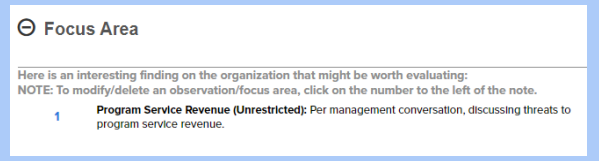
A very important number. In fact, over time, it is one of the more important barometers that we look at. It measures how many surplus cents the organization is generating for every dollar it sells. This is a very important number in preparing forecasts.

Tools for Analytical Review

Threshold Analysis



Statement of Activities	12/31/2016	12/31/2017	12/31/2018	Actual 12/31/2019	Expected 12/31/2019	% Diff	Notes
Program Service Revenue	*$7,882,607*	*$10,050,861*	*$10,554,655*	*$12,320,337*	*$11,134,018*	*11%*	1
Contributions	*$557,148*	*$945,670*	*$2,241,116*	*$2,156,682*	*$2,992,408*	*-28%*	
Government Grants	*$74,150*	*$46,008*	*$36,652*	*$76,500*	*$27,296*	*180%*	
Investment Revenue	*$1,791,366*	*$462,883*	*($311,916)*	*$3,709,339*	*($1,418,925)*	*361%*	



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TOOLS FOR ANALYTICAL REVIEW

Variance Analysis

Click for help on using comments

Statement of Activities (Total)	12/31/2016	12/31/2017	Variance ($)	Variance (%)	12/31/2018	Variance ($)	Variance (%)	Actual 12/31/2019	Variance ($)	Variance (%)	Expected 12/31/2019	Variance ($)	Expected % Diff
Program Service Revenue	$7,882,607	$10,050,861	$2,168,254	27.5%	$10,554,655	$503,794	5.0%	$12,320,337	$1,765,682	16.7%	$11,134,018	($1,186,319)	10.7%
Contributions	$557,148	$945,670	$388,522	69.7%	$2,241,116	$1,295,446	137.0%	$2,156,682	($84,434)	-3.8%	$2,992,408	$835,726	-27.9%
Government Grants	$74,150	$46,008	($28,142)	-38.0%	$36,652	($9,356)	-20.3%	$76,500	$39,848	108.7%	$27,296	($49,204)	180.3%
Investment Revenue	$1,791,366	$462,883	($1,328,483)	-74.2%	($311,916)	($774,799)	-167.4%	$3,709,339	$4,021,255	-1289.2%	($1,418,925)	($5,128,264)	361.4%
Membership Dues	$374,087	$476,515	$102,428	27.4%	$586,433	$109,918	23.1%	$644,747	$58,314	9.9%	$691,857	$47,110	-6.8%
Other Operating Revenue	$97,809	$167,968	$70,159	71.7%	$3,536,488	$3,368,520	2005.5%	$258,180	($3,278,308)	-92.7%	$4,925,991	$4,667,811	-94.8%
Net Assets Released From Restrictions	$120,685	$118,867	($1,818)	-1.5%	$147,899	$29,032	24.4%	$244,704	$96,805	65.5%	$152,652	($92,052)	60.3%
Net Assets Released From Restrictions	$120,685	$118,867	($1,818)	-1.5%	$147,899	$29,032	24.4%	$244,704	$96,805	65.5%	$152,652	($92,052)	60.3%
Total Unrestricted Revenue	$10,897,852	$12,268,772	$1,370,920	12.6%	$16,791,327	$4,522,555	36.9%	$19,410,489	$2,619,162	15.6%	$18,505,297	($905,192)	4.9%

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TOOLS FOR ANALYTICAL REVIEW

Budget-to Actual Comparison

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Statement of Activities (Total)	12/31/2016	12/31/2017	12/31/2018	Actual 12/31/2019	Expected 12/31/2019	Expected % Diff	Budget 12/31/2019	Budget Variance ($)
Program Service Revenue	$7,882,607	$10,050,861	$10,554,655	$12,320,337	$11,134,018	10.7%	$12,000,000	($320,337)
Contributions	$557,148	$945,670	$2,241,116	$2,156,682	$2,992,408	-27.9%	$3,500,000	$1,343,318
Government Grants	$74,150	$46,008	$36,652	$76,500	$27,296	180.3%	$21,000	($55,500)
Investment Revenue	$1,791,366	$462,883	($311,916)	$3,709,339	($1,418,925)	361.4%	$250,000	($3,459,339)
Membership Dues	$374,087	$476,515	$586,433	$644,747	$691,857	-6.8%	$700,000	$55,253
Other Operating Revenue	$97,809	$167,968	$3,536,488	$258,180	$4,925,991	-94.8%	$5,000,000	$4,741,820
Net Assets Released From Restrictions	$120,685	$118,867	$147,899	$244,704	$152,652	60.3%	$244,704	$0
Net Assets Released From Restrictions	$120,685	$118,867	$147,899	$244,704	$152,652	60.3%	$244,704	$0

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APPLICATIONS FOR:

RISK ASSESSMENT PROCEDURES

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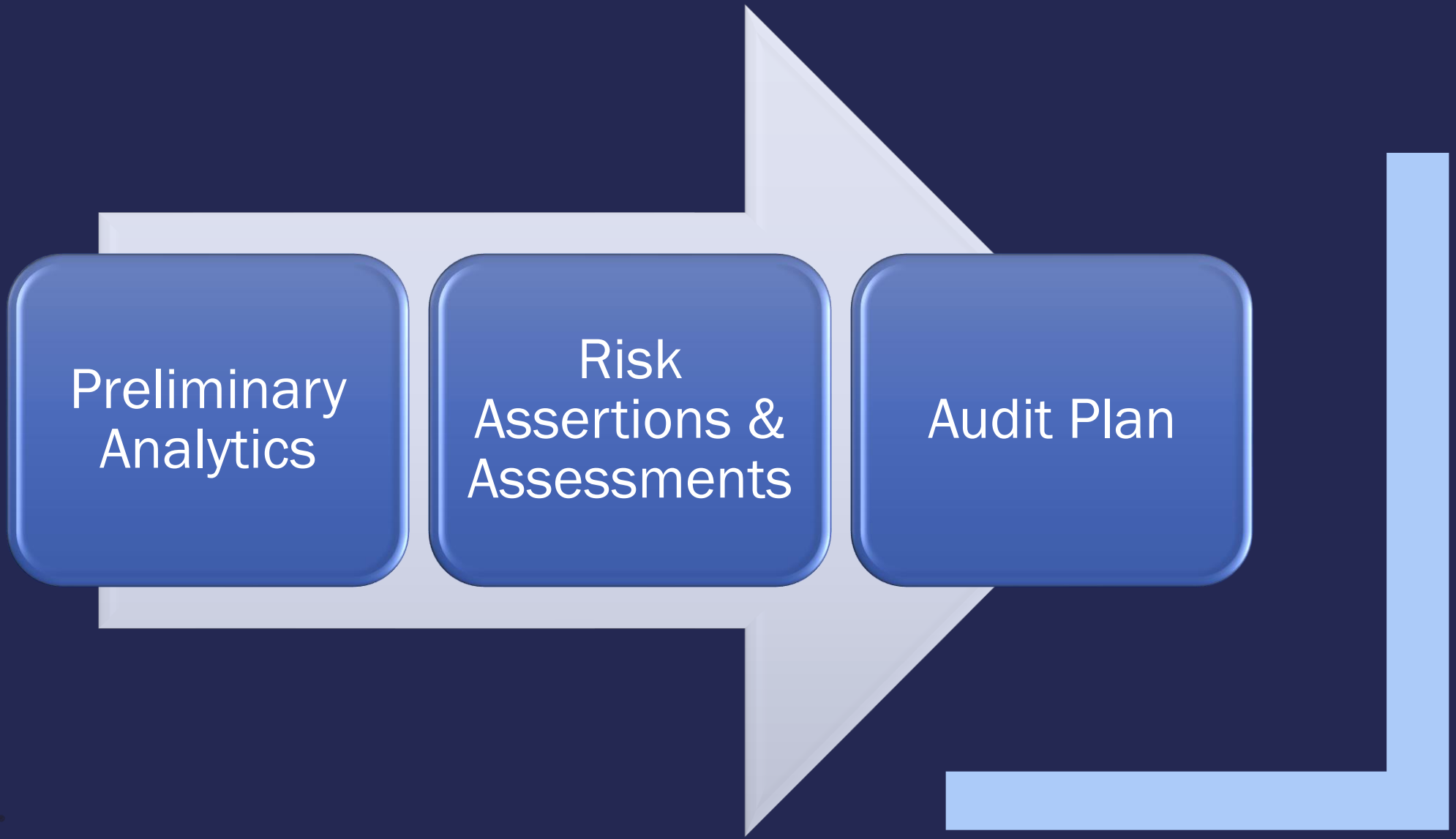

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Material if account is greater than or equal to: 20 % of Revenue or 0 $ dollars

Statement of Activities (Total)	12/31/2016	12/31/2017	12/31/2018	Actual 12/31/2019	Expected 12/31/2019	Expected % Diff	Budget 12/31/2019	Budget Variance ($)	Is the Line-item Material?
Program Service Revenue	$7,882,607	$10,050,861	$10,554,655	$12,320,337	$11,134,018	10.7%	$12,000,000	($320,337)	Y
Contributions	$557,148	$945,670	$2,241,116	$2,156,682	$2,992,408	-27.9%	$3,500,000	$1,343,318	N
Government Grants	$74,150	$46,008	$36,652	$76,500	$27,296	180.3%	$21,000	($55,500)	N
Investment Revenue	$1,791,366	$462,883	($311,916)	$3,709,339	($1,418,925)	361.4%	$250,000	($3,459,339)	Y
Membership Dues	$374,087	$476,515	$586,433	$644,747	$691,857	-6.8%	$700,000	$55,253	N
Other Operating Revenue	$97,809	$167,968	$3,536,488	$258,180	$4,925,991	-94.8%	$5,000,000	$4,741,820	N
Net Assets Released From Restrictions	$120,685	$118,867	$147,899	$244,704	$152,652	60.3%	$244,704	$0	N
Net Assets Released From Restrictions	$120,685	$118,867	$147,899	$244,704	$152,652	60.3%	$244,704	$0	N

NPOCPE A51 - Art Museums

Financial Statements	Risk Assessment Notes	Risk Significance	ASSERTIONS: Existence or Inherent Risk	Existence or Control Risk	Completeness Inherent Risk	Completeness Control Risk	Rights and Inherent Risk	Rights and Control Risk	Valuation and Inherent Risk	Valuation and Control Risk	Accuracy and Inherent Risk	Accuracy and Control Risk	Cutoff Inherent Risk	Cutoff Control Risk	Average Assertion Risk	Audit Approach based upon Risk
Program Service Revenue		None	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Investment Revenue		None	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Net Assets Released From Restrictions		None	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Total Cash and Cash Equivalents		None	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Unrestricted Cash		None	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Restricted Cash		None	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None

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APPLICATIONS FOR:

FINAL ANALYTICAL REVIEW

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Developing Management Letter Comments

⊖ Operating Yield Trends[1] ●●●●◐ 87 out of 100

A measure of whether the trends in profit are favorable for the organization.

The organization's revenues have increased this period, and so have its net gain dollars. This organization is clearly performing well in the Operating Yield area at this time. Additionally, it has been able to maintain its above-average operating margin from last period. This stable (and strong) operating margin -- along with the increase in revenues -- indicates that the organization is growing its operations at a good and measured pace. Managers have resisted the tendency to overspend as revenues are rising. This is an excellent result.

Whenever an organization has a good operating margin and increases revenues and net gains concurrently, most other aspects of its finances will fall into place; for example, this will typically cause the organization's cash position to improve over time, giving the organization a cushion if revenue growth slows in the future. In short, good work in this area, as this organization has achieved, generally leads to overall financial health for the organization.

Keep in mind that the operating margin is the operating yield percentage -- the cents of net gain extracted from each revenue dollar generated. This organization has maintained a strong operating margin over multiple periods, which is particularly good. Consistently operating with a surplus means that the organization is performing well both generally and relative to sector peers; this is depicted in the graph area of the report. The operating margin is the most important Statement of Activities ratio to manage because it indicates how effective the organization is at balancing its revenue dollars and its expenses.

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ENHANCING THE EXIT CONFERENCE

Sector Scorecard

Financial Indicator	Current Period	Sector Range	Distance from Sector
Current Ratio = Total Current Assets / Total Current Liabilities	25.17	4.50 to 7.84	+221.05%
Explanation: Generally, this metric measures the overall liquidity position of an organization. It is certainly not a perfect barometer, but it is a good one. Watch for big decreases in this number over time. Make sure the accounts listed in "current assets" (numerator) are collectible. The higher the ratio, the more liquid the organization is.			
Quick Ratio = (Cash + Total Receivables) / Total Current Liabilities	3.78	1.30 to 4.90	0.00%
Explanation: This is another good indicator of liquidity, although by itself, it is not a perfect one. If there are receivable accounts included in the numerator, they should be collectible. Look at the length of time the organization has to pay the amount listed in the denominator (current liabilities). The higher the number, the stronger the organization.			
Operating Margin = Operating Yield / Total Unrestricted Revenue	87.85%	-1.00% to 4.00%	+2,096.25%
Explanation: A very important number. In fact, over time, it is one of the more important barometers that we look at. It measures how many surplus cents the organization is generating for every dollar it sells. This is a very important number in preparing forecasts.			

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Documentation

Analytical Procedures Worksheet

Focus Area Notes

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Analytical Procedure Worksheet

Report prepared for: NPOCPE

NOTE: To change an EXPECTED value, click on the value.

Export to Excel | Set Threshold Value

Statement of Activities	12/31/2016	12/31/2017	12/31/2018	Actual 12/31/2019	Expected 12/31/2019	% Diff	Notes
Program Service Revenue	$7,882,607	$10,050,861	$10,554,655	$12,320,337	$11,134,018	11%	1
Contributions	$557,148	$945,670	$2,241,116	$2,156,682	$2,992,408	-28%	
Government Grants	$74,150	$46,008	$36,652	$76,500	$27,296	180%	
Investment Revenue	$1,791,366	$462,883	($311,916)	$3,709,339	($1,418,925)	361%	
Membership Dues	$374,087	$476,515	$586,433	$644,747	$691,857	-7%	
Other Operating Revenue	$97,809	$167,968	$3,536,488	$258,180	$4,925,991	-95%	
Net Assets Released From Restrictions	$120,685	$118,867	$147,899	$244,704	$152,652	60%	

Focus Area

Here is an interesting finding on the organization that might be worth evaluating:
NOTE: To modify/delete an observation/focus area, click on the number to the left of the note.

1 **Program Service Revenue (Unrestricted):** Per management conversation, discussing threats to program service revenue.

Documentation

Expected Values Calculations

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Expected Values Calculations

How were the expected values in the Analytical Procedure Worksheet calculated?

SECTION 1: DESCRIBE THE ALGORITHMS USED TO CALCULATE EXPECTED VALUES

Each expected value found in this report is calculated using one of the following methods: Direct Calculation, Exponential Smoothing, or Adjusted Holt-Winters Exponential Smoothing. In this section, we will provide a general description and example for each of these algorithms to help the reader understand how the calculations work.

Expected Value by Direct Calculation

Calculated accounts do not need to be predicted separately, because their values are dictated by financial formulas (for example, Gross Yield = Total Unrestricted Revenue - Program Expenses). For these accounts, we simply determine the expected values for each account in the associated formula, and then compute the result of the formula.

Expected Value by Exponential Smoothing

Exponential smoothing is a forecasting method that relies on a weighted average of historical data values, with the more recent values carrying more weight. The following variables are used in this calculation:

SECTION 2: SHOW THE CALCULATIONS FOR EACH EXPECTED VALUE

Now that we have given a brief overview of the algorithms used to calculate expected values, we will show precisely how each value in this report has been calculated. Calculations may vary slightly due to rounding.

Program Service Revenue

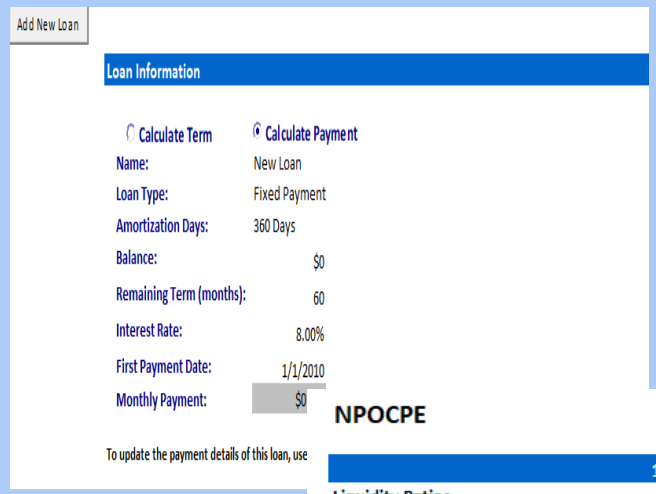
Algorithm: Adjusted Holt-Winters Exponential Smoothing

Formula	Calculation
In this case, the Adjusted Holt-Winters algorithm predicted Program Service Revenue would move beyond an intuitive value where the predicted growth was more than 15% more than the prior periods growth . Therefore, we have smoothed the Expected Value for Program Service Revenue using a different method.	10,554,655 + 1.15 * (10,554,655 - 10,050,861)
Expected Value = $\text{Program Service Revenue}_{12/31/2018}$ - 1.15 * (Program Service $\text{Revenue}_{12/31/2018}$ - Program Service $\text{Revenue}_{12/31/2017}$	Expected Value = 11,134,018

Documentation

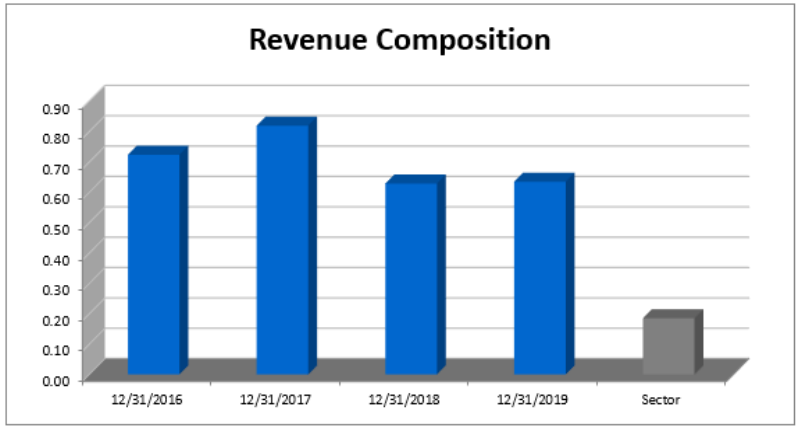
Additional Analytical Tools

- Loan Template
- Charts
- Financial Ratios



NPOCPE

	12/31/2016	12/31/2017	12/31/2018	12/31/2019	Sector
Liquidity Ratios					
Current Ratio	16.89	19.72	12.55	25.17	6.17
Quick Ratio	4.55	5.23	2.46	3.78	3.10
Operational Ratios					
Program Efficiency	0.00	0.00	0.00	0.00	0.70
Revenue Composition	0.72	0.82	0.63	0.63	0.19
Operating Reliance	3.95	4.90	4.75	5.23	0.12
Fundraising Efficiency	0	0	0	0	7.50
Cash Reserve	1739.89	1950.08	1622.17	1478.47	182.00
Operating Yield Ratios					
Gross Program Margin	100.00%	100.00%	100.00%	100.00%	60.00%
Operating Margin	81.69%	83.28%	86.78%	87.85%	1.50%
Investment Yield	14.39%	3.00%	-1.37%	12.13%	



2.98	19.92	17.29	65.00
4.90	22.99	19.45	
0	0	0	45.00
0	0	0	25.00

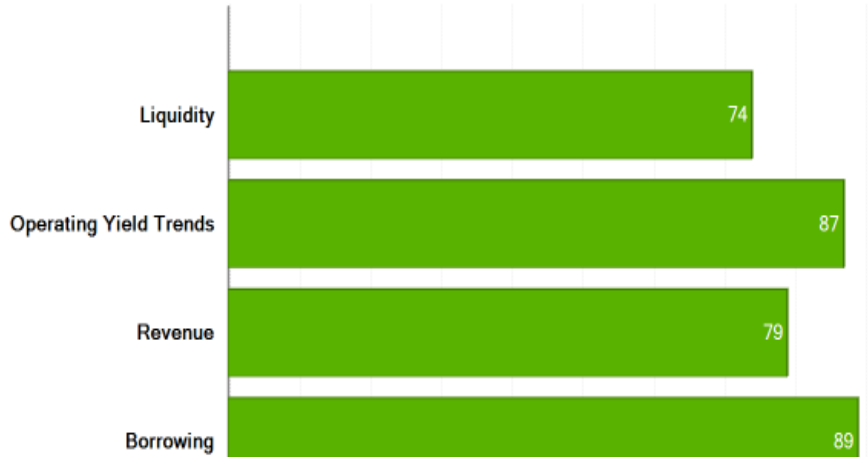
Documentation

Narrative Analysis

NPOCPE Report

Sector: A51 - Art Museums
Sales Range: Yearly revenue $10 Million to $50 Million
Periods: 12 months against the same 12 months from the previous year
Prepared by: Savage Accounting
By: Paul Savage
Phone: 919-867-5309

Report Summary



Gross Program Margin = Gross Yield / Total Unrestricted Revenue

This number indicates the percentage of revenue that is left over after paying for program expenses. It is an important statistic that can be used in business planning because it indicates how many cents of gross program profit can be generated by future revenue and also what percentage of revenue the organization can use for other expenses such as administration and fundraising.

profitcents

THANK YOU!

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